

CLAIMS

Listing of claims:

1. (currently amended) A calcium phosphate body wherein the body is a calcium phosphate agglomerate being a product of an agglomeration as an agglomeration of a plurality of water-soluble glass bodies is transformed into a plurality of calcium phosphate bodies by dissolution, in an aqueous phosphate solution, of said glass bodies and reaction of Ca^{2+} ions therefrom with PO_4^{3-} and OH^- , the calcium phosphate agglomerate having a shape that is substantially the same as that of the agglomeration of the plurality of water-soluble glass bodies, wherein the agglomeration of the plurality of water-soluble glass bodies is individual particles of the water-soluble glass bonded together.

2. (original) The agglomerate of claim 1 wherein the agglomerate contains at least about 10 calcium phosphate bodies.

3. (original) The agglomerate of claim 1 wherein the agglomerate has a width of at least about 1 μm .

4. (previously presented) The calcium phosphate body of claim 1 wherein the agglomerate of water-soluble glass bodies is formed by sintering.

5. (original) The calcium phosphate body of claim 1 wherein the body is hollow.

6. (original) The calcium phosphate body of claim 1 wherein the body is porous.

7. (original) The calcium phosphate body of claim 1 wherein the body is hollow and porous.

Claims 8 - 54. (canceled)

55. (previously presented) A regular or irregular particle of hydroxyapatite prepared from molded water-soluble glass containing about 1-40 wt.% of a calcium component, about 5-65 wt.% of an alkali metal oxide component and about 20-94 wt.% of a glass former, other than glass containing 20-35 wt.% CaO, 20-35 wt.% Na₂O, 0-10 wt.% P₂O₅ and 30-50 wt.% B₂O₃, transformed in a phosphate solution at a temperature of less than about 100°C, the hydroxyapatite particle having substantially the same shape as the molded water-soluble glass.

56. (previously presented) The particle of claim 55 wherein the glass former is B₂O₃ and the water-soluble glass has a ratio of B₂O₃ to alkali metal oxide component of about 2 to 1 to about 4 to 1.

57. (previously presented) The particle of claim 55 wherein the glass former is B₂O₃ and the water-soluble glass has a ratio of B₂O₃ to alkali metal oxide component of about 2.5 to 1 to about 3.5 to 1.

58. (previously presented) The calcium phosphate body of claim 1 wherein the water-soluble glass bodies contain about 1 to about 40 wt.% CaO, about 5 to about 65 wt.% alkali metal oxide component and about 20 to about 94 wt.% of a glass former.

59. (previously presented) The calcium phosphate body of claim 58 wherein the water-soluble glass body contains about 15 wt.% of CaO.

60. (previously presented) The calcium phosphate body of claim 58 wherein the alkali metal oxide component is Li₂O, Na₂O, K₂O, Rb₂O, Cs₂O or mixtures thereof.

61. (previously presented) The calcium phosphate body of claim 58 wherein the alkali metal oxide is Li₂O.

62. (previously presented) The calcium phosphate body of claim 58 wherein the water-soluble glass body contains about 10 to about 15 wt.% CaO and about 8 to about 15 wt.% of the alkali metal oxide wherein the alkali metal oxide is Li₂O.

63. (previously presented) The calcium phosphate body of claim 58 wherein the glass former is SiO_2 , P_2O_5 , B_2O_3 or a mixture thereof.

64. (previously presented) The calcium phosphate body of claim 58 wherein the water-soluble glass body contains about 10 to about 15 wt.% CaO and about 8 to about 15 wt.% of the alkali metal oxide wherein the alkali metal oxide is Li_2O , and containing about 70 to about 82 wt.% of B_2O_3 .

65. (previously presented) The calcium phosphate body of claim 58 wherein the calcium phosphate is amorphous calcium phosphate or hydroxyapatite.

66. (previously presented) The particle of claim 55 wherein the molded glass has a shape of a bar, rod, cube, or ellipsoid.

67. (previously presented) The calcium phosphate body of claim 1 wherein the calcium phosphate agglomerate has a size that is substantially the same as that of the agglomeration of the plurality of water-soluble glass bodies.

68. (previously presented) A process for making the hydroxyapatite particle of claim 55 comprising contacting a water-soluble glass body and a phosphate solution at a temperature of less than about 100°C .

69. (previously presented) The process of claim 68 wherein the water-soluble glass body contains about 15 wt.% of CaO.

70. (previously presented) The process of claim 68 wherein the alkali metal oxide component is Li_2O , Na_2O , K_2O , Rb_2O , Cs_2O or mixtures thereof.

71. (previously presented) The process of claim 68 wherein the alkali metal oxide is Li_2O .

72. (previously presented) The process of claim 68 wherein the water-soluble glass body contains about 10 to about 15 wt.% CaO and about 8 to about 15 wt.% of the alkali metal oxide wherein the alkali metal oxide is Li_2O .

73. (previously presented) The process of claim 68 wherein the glass former is B_2O_3 .

74. (previously presented) The process of claim 68 wherein the water-soluble glass body contains about 10 to about 15 wt.% CaO and about 8 to about 15 wt.% of the alkali metal oxide wherein the alkali metal oxide is Li_2O , and containing about 70 to about 82 wt.% of B_2O_3 .

75. (previously presented) The process of claim 68 wherein the water-soluble glass body and the phosphate solution are contacted for a time ranging from about 1 hour to 2 weeks.

76. (previously presented) The process of claim 68 wherein the water-soluble glass body and the phosphate solution are contacted for a time ranging from about 4 hours to 24 hours.

77. (previously presented) The process of claim 68 wherein the water-soluble glass body and the phosphate solution are contacted at a temperature of about 20°C to about 90°C .

78. (previously presented) The process of claim 68 wherein the water-soluble glass body and the phosphate solution are contacted at a temperature of about 37°C .

79. (previously presented) The process of claim 68 wherein the phosphate solution has a pH of about 7 to about 10.

80. (previously presented) The process of claim 68 wherein the phosphate solution has a pH of about 9.

81. (previously presented) The process of claim 68 wherein the phosphate solution has a concentration of about 0.001M to 1.0M.

82. (previously presented) The process of claim 68 wherein the phosphate solution has a concentration of about 0.25M.

83. (previously presented) The process of claim 68 wherein the water-soluble glass body and the phosphate solution are contacted at a temperature of about 37°C for a time of about 24 hours and the phosphate solution has a concentration of about 0.25M and a pH of about 9.

84. (new) The calcium phosphate body of claim 1 wherein said individual particles comprise particles in bar form.

85. (new) The calcium phosphate body of claim 1 wherein said individual particles comprise particles in rod form.

86. (new) The calcium phosphate body of claim 1 wherein said individual particles comprise particles in cube form.

87. (new) The calcium phosphate body of claim 1 wherein said individual particles comprise particles in ellipsoid form.

88. (new) The calcium phosphate body of claim 1 wherein said individual particles comprise particles in sphere form.

89. (new) The calcium phosphate body of claim 1 wherein said individual particles comprise particles in fiber form.

90. (new) The calcium phosphate body of claim 1 wherein said individual particles of the water-soluble glass are sintered together.

91. (new) The calcium phosphate body of claim 1 wherein said water-soluble glass bodies are bonded together during transformation.